

I. Current Research Needs:

Epidemiological studies of health outcomes of populations exposed to RF are warranted, particularly of trends in exposure over time. However, exposures from the use of wireless communication devices are not well quantified. Improved exposure assessment will enhance the design and interpretation of future epidemiological studies. More exposure assessment research as well as the findings from epidemiological studies now in progress are needed before new epidemiological studies are considered.

Exposure Assessment Studies:

- Perform a comprehensive analysis of all parameters affecting exposure levels during the use of wireless communication devices.
 - Parameters should include
 - Phone model
 - Usage pattern (including car travel)
 - Location/network
- Incorporate dose-phone technology that logs
 - Duration of calls
 - Power outputs of phone during calls
 - Orientation / laterality information
 - Transmission mode
- Gather information on non-head exposures including gonad and torso exposures from waist-mounted devices.
- Perform an analysis of how exposure changes over time, i.e. with introduction of new technologies, increased availability of accessories etc.
- Perform an analysis on the accuracy of self-reported usage of wireless communication devices.
- Perform analysis on the effect of terrain, locale (urban, rural, etc), base station proximity and other network characteristics, building locations, and other such features on the RF exposure from wireless communication devices. This is needed due to the significant but poorly characterized effect such factors have on power output from these products.
- Analyze available data on calculations of SAR in heads of adults compared to children. Studies should be designed such that the data can be synchronized with studies of the anatomical resolution of brain tumor location. These studies should incorporate the best available dielectric data or, if possible, include the development of better dielectric data.

II. General Requirements:

Proposals should document responsiveness to the following items

- Research team should have demonstrable relevant experience.
- All raw data should be provided to CTIA and the FDA.
- Studies described in current research needs should study types of RF exposures from wireless phone use occurring in the United States.
- Exposure assessment studies should be conducted without unreasonable delay.

III. Future Research:

The following topics may be considered at a later date:

- Addition of RF exposure assessment to existing studies as opportunities to do so arise.
- A future cohort study may have considerable value because of the potential relationship between mobile phone use and a number of different endpoints that can be evaluated in the same study. A need may arise to study disease endpoints not currently recognized as worthy of study. This unrecognized need could be addressed in a cohort study.
- Consideration of case control studies awaits results from the IARC program studies. These IARC studies are clearly warranted. One of the greatest limitations of currently published studies is the relatively brief duration of mobile phone use by the study subjects. In general, the mean duration of mobile phone use was less than 3 years. Potential long term (e.g. more than 10 years) effects of mobile phone use could be studied in subjects with extended durations of mobile phone use (e.g. more than 10 years).

Due to the limitations of exposure assessment for both existing and ongoing studies, further consideration of case control and cohort studies awaits completion of exposure assessment studies described above. The results of exposure assessment studies should be incorporated into any future epidemiological studies.